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U.S. Department of the Interior • U.S. Geological Survey

# MINERAL INDUSTRY SURVEYS

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## MANUFACTURED ABRASIVES IN THE SECOND QUARTER 1997

The U.S. Geological Survey (USGS) collects quarterly data on manufactured abrasives from producers through surveys. Manufactured abrasives included in this report are fused aluminum oxide, silicon carbide, and metallic abrasives. The USGS estimates unreported data. Except where noted, the quantities given below are in metric units.

### Fused Aluminum Oxide

Production data for the second quarter of 1997 were collected from four companies operating nine plants in the United States and Canada. Reported production of regular-grade fused aluminum oxide in the second quarter was 26,100 tons valued at \$9.7 million, or \$371 per ton. Production during the same period of 1996 was 33,700 tons valued at \$11.8 million, or about \$350 per ton. Output of high-purity fused aluminum oxide in the second quarter was withheld from this report in order to protect company proprietary information. Production during the same period of 1996 was 5,010 tons valued at \$2.8 million or \$555 per ton.

Based on the rate of production in the first half of the year, the annual output of regular-grade fused aluminum oxide in 1997 is projected to be at least 94,000 tons valued at \$34.9 million; production in 1996 was 127,000 tons valued at \$44.9 million. Based on production in the first quarter, total 1997 output of high-purity fused aluminum oxide is projected to be at least 14,000 tons valued at \$8 million.

According to the Bureau of the Census, 1997 imports of crude fused aluminum oxide through May were 26,100 tons valued at \$12.7 million, or \$489 per ton. Of the reported imports, 86% was from Canada. Imports of refined and ground fused aluminum oxide during the same time period were 20,300 tons valued at \$16.9 million, or \$831 per ton. The top five countries exporting the largest quantities of refined and ground material to the United States, in descending order, were China (59%), Austria (15%), Germany (11%), Canada (9%), and Italy (5%).

Exports of fused aluminum oxide through May 1997 were 5,360 tons. The exports were valued at \$8.4 million, or \$1,570 per ton.

As of April 1, 1997, The National Defense Stockpile contained 142,000 tons of crude fused aluminum oxide valued at \$19.4 million and 29,400 tons of fused aluminum oxide abrasive grain valued at \$14.4 million. However, all of the crude fused aluminum oxide and fused aluminum oxide abrasive grain in the stockpile is authorized by law for disposal. During the second quarter of 1997, the Department of Defense sold 349 tons of fused aluminum oxide abrasive grain; no crude fused aluminum oxide was sold. Additional abrasive grain may be sold later in the year.

### Silicon Carbide

The USGS collects silicon carbide production data from three companies operating three plants in the United States and Canada. Production in the second quarter was 17,300 tons at an estimated value of \$8.5 million.

Imports of crude silicon carbide through May 1997 were 95,300 tons valued at \$35.1 million. Imports from China were 75,400 tons valued at \$22.5 million. The average price of imported crude silicon carbide, excluding Chinese crude, was \$634 per ton. The average price of Chinese crude was \$298 per ton. Imports of refined and ground silicon carbide for the same period were 7,060 tons valued at \$10.8 million, or \$1,540 per ton. During the period, China and Canada were the largest suppliers of crude material, furnishing virtually all of the tonnage with shares of 79% and 14%, respectively. In descending order, China (35%), Brazil (20%), Norway (14%), Canada (11%), and Germany (7%) were the largest suppliers of refined and ground silicon carbide.

Exports of crude silicon carbide through May 1997 were 2,340 tons valued at \$2.1 million. Exports of refined and ground silicon carbide were 6,730 tons valued at \$5 million.

As of April 1, 1997, the National Defense Stockpile

contained 16,700 tons of silicon carbide valued at \$7.6 million. However, existing legislation authorizes the disposal of all silicon carbide in the stockpile. The Department of Defense sold 4,100 tons of silicon carbide during the second quarter of 1997, but does not plan to sell any of the remaining material during the third quarter.

### **Metallic Abrasives**

Metallic abrasives information was collected from thirteen companies operating fourteen U.S. plants, including two new cut wire shot producers that began operations in 1996. During the second quarter of 1997, U.S. production of steel shot and grit was 63,900 tons, a slight increase compared to the same period in 1996. Second quarter production was valued at \$28.1 million or about \$440 per ton. Based on the rate of production in the first half of 1997, total annual output is projected to be about 263,000 tons valued at \$116 million; production in 1996 reached 240,000 tons valued at \$106 million.

Shipments of steel shot and grit in the second quarter were 59,600 tons valued at \$26.9 million, or \$452 per ton. Shipments during the second quarter of 1996 were 54,900 tons

valued at \$25.4 million or \$463 per ton.

Estimated second quarter production of other types of metallic shot and grit (cut wire and reclaimed shot and grit) were 2,340 tons valued at \$4 million. Estimated shipments for the second quarter were 2,340 tons valued at \$4.0 million.

Imports of all types of metallic shot and grit through May 1997 were 9,930 tons valued at \$5 million, or \$511 per ton. Canada was the largest supplier accounting for 88% of the tonnage imported.

Exports of all types of metallic abrasive through May 1997 were 10,800 tons valued at \$7.3 million, or \$677 per ton. Exports for 1996 were 24,900 tons valued at \$15.2 million, or \$609 per ton.

If you have suggestions about how we can improve this report, please call (703) 648-7721.
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TABLE 1  
MANUFACTURED ABRASIVES 1/

(Metric tons unless otherwise specified)

Source and product	1996						1997			
	Second quarter		Third quarter		Fourth quarter		First quarter		Second quarter	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
United States and Canada: Production										
Silicon carbide	18,800	\$9,490 e/	17,900	\$8,920 e/	18,700	\$9,470 e/	18,600	\$9,090 e/	17,300	\$8,490 e/
Crude aluminum oxide:										
Regular	33,700	11,800	31,800	11,200	28,100	9,860	21,000	7,770	26,100	9,700
High purity	5,010	2,780	6,550	3,800	5,480	3,220	3,540	2,030	W	W
Total	38,700	14,600	38,300	15,000	33,600	13,100	24,500	9,790	26,100	9,700
United States: Production										
Steel shot and grit	62,900	28,100	54,900	24,200	58,100	25,500	67,800	29,800	63,900	28,100
Other shot and grit e/ 2/	1,880	3,680	2,110	4,120	2,000	3,960	2,240	4,020	2,340	4,050
Total	64,800	31,800	57,000	28,300	60,100	29,400	70,100	33,800	66,200	32,200
United States: Shipments										
Steel shot and grit	54,900	25,400	54,900	25,200	53,500	24,300	61,300	27,700	59,600	26,900
Other shot and grit e/ 2/	1,880	3,700	2,120	4,130	2,000	3,960	2,210	3,940	2,340	4,000
Total	56,800	29,100	57,100	29,300	55,500	28,300	63,500	31,600	61,900	30,900

e/ Estimated. W Withheld to avoid disclosing company proprietary data.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes cut wire shot and reclaimed shot and grit from primary producers.